

## PATENT COOPERATION TREATY

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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P14263PCDK	FOR FURTHER ACTION	
	See Form PCT/IPEA/416	
International application No. PCT/DK2004/000170	International filing date (day/month/year) 16.03.2004	Priority date (day/month/year) 14.04.2003
International Patent Classification (IPC) or national classification and IPC E04C2/26		
Applicant SERWIN HOLDING APS et al		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <ul style="list-style-type: none"> <li>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of 1 sheets, as follows:           <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</li> <li><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</li> </ul> </li> <li>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)), containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</li> </ul>	
<p>4. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Box No. I Basis of the opinion</li> <li><input checked="" type="checkbox"/> Box No. II Priority</li> <li><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li><input type="checkbox"/> Box No. IV Lack of unity of invention</li> <li><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement.</li> <li><input type="checkbox"/> Box No. VI Certain documents cited</li> <li><input type="checkbox"/> Box No. VII Certain defects in the international application</li> <li><input type="checkbox"/> Box No. VIII Certain observations on the international application</li> </ul>	

Date of submission of the demand 12.11.2004	Date of completion of this report 22.08.2005
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer  Mysliwetz, W  Telephone No. +31 70 340-2544



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/DK2004/000170

**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
    - international search (under Rules 12.3 and 23.1(b))
    - publication of the international application (under Rule 12.4)
    - international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

**Description, Pages**

1-25 as originally filed

**Claims, Pages**

2-4 as originally filed  
1 received on 12.11.2004 with letter of 12.11.2004

**Drawings, Sheets**

1/5-5/5 as originally filed

a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3.  The amendments have resulted in the cancellation of:
  - the description, pages
  - the claims, Nos.
  - the drawings, sheets/figs
  - the sequence listing (*specify*):
  - any table(s) related to sequence listing (*specify*):
4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
  - the description, pages
  - the claims, Nos. 1
  - the drawings, sheets/figs
  - the sequence listing (*specify*):
  - any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

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**Box No. II Priority**

1.  This report has been established as if no priority had been claimed due to the failure to furnish within the prescribed time limit the requested:
  - copy of the earlier application whose priority has been claimed (Rule 66.7(a)).
  - translation of the earlier application whose priority has been claimed (Rule 66.7(b)).
2.  This report has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rule 64.1). Thus for the purposes of this report, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes: Claims	1-19
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-19
Industrial applicability (IA)	Yes: Claims	1-19
	No: Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

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**Re Item I**

**Basis of the report**

- The applicant has added the feature 'flat' in claim 1. The amendment does not fulfil the PCT-requirements, as nowhere in the application is it unambiguously disclosed that the tension plate is flat.

**Re Item V**

Reference is made to the following documents:

- D1: DE 24 05 155 A (HOESCH WERKE AG) 7 August 1975 (1975-08-07)
- D2: WO 97/33054 A (CEMSYSTEMS) 12 September 1997 (1997-09-12)
- D3: US-A-4 979 992 (BACHE) 25 December 1990 (1990-12-25)

Considering D1 and D2, D1 is considered to constitute the closest prior art, as it contains the following features of claim 1, namely a composite sandwich plate-like construction with a tension plate 1, a contact layer 2,3, and a compression layer 4 consisting of an inorganic layer and a binder, with the exception of the ultra fine particles in the inorganic layer. The problem to be solved by the present invention may therefore be regarded as to provide a sandwich plate-like construction with improved properties of the inorganic layer and in particular to prevent ingressions of chlorides, CO<sub>2</sub> and water (see p.3, l. 19-21). However, these features have already been employed for the same purpose in a similar sandwich plate-like construction, see D2, p.8, par. 4 - p. 9. par. 1 and fig. 6. It would be obvious to the person skilled in the art, namely when the same result is to be achieved, to apply these features with corresponding effect to a sandwich plate-like construction according to document D1, thereby arriving at a construction according to claim 1.

Also starting from D2 as closest prior art, the subject-matter of claim 1 lacks an inventive step. D2 discloses a sandwich plate-like construction having all the features of claim 1 with the exception of the contact layer. Therefore should the skilled person determine that the contact between the inorganic layer and the tension plate of D2 was insufficient, he would surely take the teaching of D1 into account to improve the size of the forces which can be transferred from the inorganic layer to the tension plate. D1 describes (p.6, par. 2) how in the state of the art a smooth tension plate could be improved to transfer larger forces by providing a contact layer 2, 3.

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Furthermore, claim 14 also lacks an inventive step, since the sequence of method steps in this claim is most obvious for the skilled person if he wants to arrive at a construction as claimed in any of the claims 1-10.

Dependent claims 2-13 and 15-19 do not contain any features which, in combination with the features of any claim they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, the reasons being as follows:

claim 2: D2, claim 5

claim 3: D3, col. 36, l. 23-25

claim 4: D2, claim 3

claim 5: D3, col. 36, l. 27-28

claim 6: D2, claim 4

claim 7: D2, p. 45, l. 20

claim 8: D3, col. 36, l. 62-65

claim 9: D2, p. 45, l. 17-19

claim 10: D3, col. 36, l. 65

claim 11: D1, p. 6, par. 2

claim 12: D2, p. 38, l. 4-17

claim 13: D1, p. 1, par. 1

claim 15: would appear to be an obvious choice for the skilled person considering D1, claim 1

claim 16: D2, claim 5

claim 17: an obvious choice for the skilled person to space reinforcements (see DE1 800 858 cited in the application)

claim 18: an obvious choice for the skilled person

claim 19: D2, p. 45, par. 5 - p. 46, par. 1

REPLACEMENT SHEET  
12 NOV. 2004

25

**CLAIMS**

1. Composite sandwich plate-like construction, comprising a flat tension plate, a contact layer and a compression layer, said compression layer being an inorganic layer at least comprising ultra fine particles and a binder.  
**5**
2. Construction according to claim 1, characterised in that the inorganic layer encapsulates a reinforcement, said reinforcement being steel bars or rods, carbon-, glass-, plastic and/or steel fibres.
- 10 3. Construction according to claim 2, characterised in that the reinforcement bars or rods constitutes 3 % to 60 % by weight of the inorganic layer, more preferred 5 % to 35 % by weight of the inorganic layer, and most preferred 6 % to 20 % by weight of the inorganic layer.
- 15 4. Construction according to claim 2, characterised in that the fibre content constitutes 1 % to 35 % by weight of the inorganic layer, more preferred 1 % to 20 % by weight of the inorganic layer, and most preferred 2 % to 12 % by weight of the inorganic layer.
- 20 5. Construction according to claim 1, characterised in that the inorganic layer comprises a coarse graded aggregate having an aggregate size between 1 mm and 22 mm, more preferred 2 mm and 16 mm and most preferred 2 mm and 8 mm and that the grading is in intervals having grain sizes 2 - 5 mm, 3 - 6 mm, 5 - 8 mm and/or 8 - 11 mm.  
**25**
6. Construction according to claim 1 and/or claim 5, characterised in that the inorganic layer comprises a coarse aggregate constituting 20 % to 75 % by weight of the inorganic layer, more preferred 30 % to 65 % and most preferred 35 % to 55 % by weight of the inorganic layer, and that the aggregate is chosen from or as a combination of basalt, granite, bauxite, korund or similar strong types of aggregates.  
**30**
7. Construction according to claim 1, characterised in that the inorganic layer comprises in addition to the binder a fine aggregate fraction, having particles between